



# Cape Light Compact Demand Response Demonstration Offering

2016-2018



# Offering Overview



- CLC included a DR Demonstration Offering in 2016-2018 Plan
  - Focused on residential customers
  - Goal: Learn how to best engage residential customers in demand response, use experience to inform further DR program development
  - Offered participants a WiFi thermostat and near real-time energy monitoring equipment, monitored/controlled via app and/or web
    - Participants must have central a/c controlled by wall-mounted thermostat
  - Participants' thermostat set points were adjusted during DR events called by CLC
  - Events called based on weather and system load predictions
    - Targeted load rather than energy prices

## Offering Overview (cont.)



- Also deploying behind-the-meter thermal storage demonstration projects for small-medium C&I customers
  - Ice Bear technology targets summer peak loads from air conditioning
  - Works in concert with air conditioning equipment to reduce demand at set hours without impacting indoor temperature
  - Plan to deploy 5 – 10 units before summer 2017
  - Locations being selected to demonstrate potential to deliver customer- and grid-facing benefits, in areas with high seasonal population fluctuation

# 2016 Recap



- Numbers
  - 9 DR Events
  - 39 participants enrolled, 56 thermostats installed
  - ~160 thermostat DR events called
- Successes
  - Very low opt-out rate for events
  - Overall, technology and concept was well-received by customers
- Challenges
  - Limited pool of applicants – fewer central a/c customers than expected - incorporating customers with ductless mini-splits into the demonstration offering
  - No smart metering for reduction measurement
    - Monitoring equipment installation = slower deployment
    - Real-time energy usage monitoring is expensive
  - Vendor platform challenges resulted in less complex event structure
    - Most events were called as opt-out only

# 2017: Expansion & Improvements



- Platform Improvements
  - Develop algorithm to call events to target demand
  - Day-of baseline adjustment
- Expanding participation
  - Leverage thermostats installed through HES, and include offering information in HES packets
  - Bring Your Own Thermostat (BYOT) for customers with eligible thermostats already installed
  - Expanding a/c equipment compatibility to increase participation
    - Plan to incorporate load control for ductless mini-split systems
- Reduce costs by eliminating energy monitoring equipment
  - Possibly use currently enrolled customers with monitoring equipment to help model demand reductions
- First small C&I thermal storage demos deployed before summer 2017

**Thank you**